

# ZAHNBUERSTE

## Bibliographic data

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### Toothbrush

The invention refers to a toothbrush with grasp and bristles.

The known, üblicherweise toothbrushes that used of the population genus managing specified are subject to more einer natural wear, so that the dentists give the rat to change the toothbrush at least monthly.

Diese requirement results from hygienic reasons, since sich in courses of the time at the bristle beginning bacteria store off, which are deleterious for a proper tooth mouthHygiene.

Furthermore the bristles of the brush wear themselves out after longer use, bend or break off, which more einer einwandfreien dental care abträglich is.

A so frequent change of the conventional toothbrushes represents a not irrelevant cost-related load, those to conditional that from diesen reasons the toothbrush does not become finally in required mass the changed.

Due to these disadvantages the object of the subject-matter of the application consists of creating a toothbrush of the genus initially specified mentioned become to that extent avoided with which the disadvantages that an inexpensive replacement of the toothbrush bottom achievement of a versatile turn barkeit possible is.

The solution of the object consists of the fact that the bristles with a bristle owner are releasable connected with the griffe portion.

As a result of this particular formation of the toothbrush the possibility arises to only replace wesentlich the cheaper bristle owners without as with the prior toothbrushes the grasp of the toothbrush must be likewise thrown away. Thereby the grasp can if erforderlich, operation and concomitantly somewhat expensive designed becomes. In addition the grasp can be distinctively not only after paint, but also after the shape formed with a mehrköpfigen family, so that each family member despite obeying the requirement of the dentists to often replace the bristles with which it trusted handset remains.

An other advantage consists of the fact that for each user various bristle forms and/or. Bristle-hard are more available. One can thus depending upon nature of the teeth and/or. exchange immediately a harder bristle set approximately einen softer bristle set or reversed after the health. In addition exists the possibility, special operations for prostheses with only a row of bristles or uses with rubber sharpen for tooth spaces to use.

So that connected with the use of the toothbrush the bristle set with the bristle owner is to the receptacle of the arising forces fixed with the griffe portion, the bristle set can toward the bristles longitudinal axis into an generally closed depression of the Griffteil einsetzbar sein.

To the attachment of the bristle owner in the griffe portion the depression at the interior opening edge can exhibit inward rising up retaining lips, so that the bristle owner at einem falling out of the depression becomes hindered. For this the Borstenhalter can regarding more einer better plant of the retaining lips bristle-laterally at the outlining edge provided with a chamfering sein.

Regarding a good attachment of the bristle owner holes arranged can sein, into the knobs engage arranged at that the bristles of opposite side of the Befestigungstels in the Bodenbereich of the Vertiefung in the griffe portion.

Finally the attachment of the bristle owner also magnetic can take place, whereby in the bristle owner Magnetstempelur injected can be and in the recess reason a metal panel arranged.

So that the bristle owner can become in simple and light manner introduced into the Vertiefung, remote outlining edge of the bristle owner is a chamfer provided at that the bristles.

Regarding more other advantageous embodiment of the subject-matter of the application the bristle owner from in front can into in gripple portion a located in front open groove insertable its, whereby one in front at the gripple portion find light wegblegbare Sicherungsnase provided is.

So that lateral falling out of the bristle owner of the groove becomes prevented, the bristle owner can be positive in the groove arranged, wobei the groove either schwalbenschwanzförmig or t-shaped formed to be can.

So that the insertion of the bristle owner can take place into the groove if possible simple and light, remote outlining edge a chamfering provided sollte to be at that the bristles.

Other Einzelheiten, features and advantages of the invention result from the subsequent description reln of the schematic Ausführungskelsple represented in the beigefügten designs. Zelgen: Fig. 1a a partial sectional side view of one Toothbrush, Fig. 1b a cross section by the toothbrush along the line 1b - 1b, Fig. 2a a partial sectional side view of another embodiment of a toothbrush, Fig. 2b a cross section by the toothbrush along the line 2b - 2b of the Fig. 2a, Fig. 3a a partial sectional side view of another embodiment of a toothbrush, Fig. 3b a cross section along the line 3b - 3b that Fig. 3a in accordance with a first embodiment, Fig. 3c a cross section along the line 3c - 3c  
In Fig. 3a in accordance with a second embodiment, Fig. 4a a partial sectional side view more elner weiteren embodiment of a toothbrush, Fig. 4b elnen cross section along the line 4b - 4b in  
Fig. 4a, Fig. 4b a partial sectional side view of another embodiment of a toothbrush, Fig. 5b a cross section along the line 5b - 5b in  
Fig. 5, Fig. 5c a plan view on the bristle range the tooth it brushes prehend Fig. 5, Fig. 6a a teilweise sectional side view of a weiteren embodiment of elner toothbrush, Fig. 6b a cross section along the line 6b - 6b in  
Fig. 6a and Fig. 6c a Draufsicht on the bristle range the tooth brushes in accordance with Fig. 6a.

A in the designs dargestellte toothbrush essentially consists of a Griffteil 10 and elnem with bristles 12 provided bristle owner 14. The corresponding representation in Fig. 1, Fig. 3 to Fig. that exhibits 6 gripple portion 10 within the bristle range a depression 16, which is elngeformt either into the gripple portion 10 in-milled or with the production of the gripple portion. By this imbedding of the bristle owner 14 in the depression 16 the over the bristles of transmitted motives regarding a good support and a good Kraftverteilung are elngeleitet into the groove wall.

So that the bristle owner 14 of the depression 16 cannot fall out, 16 retaining lips 18 are at the opening edge of the depression, by whose bias of the bristle owners in the depression held becomes. With the withdrawal of the bristle set drawn becomes at the bristles, until the bias of the Halteelppen at the holder is overcome, so that the bristle set jumps out.

The corresponding representation in Fig. 2 falling out the bristle set becomes by magnetic forces prevented. Is into the plastic body of the bristle owner 14 Magneteiselpulver and on the reason of the depression 16 a Metalplättchen 20 with injected.

in Fig. 4 an other type of mounting is dargestellt, by which falling out of the bristle owner is to become 14 prevented. In diesem cases find sich in the bottom 22 the Vertiefung of 16 holes 24 and at that the bristles remote surface 26 of the bristle owner 14 preferably circular knobs 28, which engage in the holes 24.

The kreisrunden, spherical knobs 28 are eventual hollow ausgebildet, so that the knobs resilient pressure from above, bottom into the preferably conical bores, substitute.

The bias is similar as with a push button.

So that the bristle owner can become 14 if possible light and simple 16 introduced into the depression, the bristle owner 14 at that exhibits the bristles remote outlining edge a chamfering 30.

in Fig. 3 the depression 16 is ausgebildet as groove, which is open formed at the front of the Borstenbereiches. Thus the bristle owner 14 can be slid from the front into the groove. So that the bristle owner 14 cannot fall out forward, there a locking fang is 32 provided, which can be bent downward, if the bristle owner is to become 14 pushed in or again withdrawn. To the prevention of falling out the bristle owner 14 is these positive 10, corresponding Fig arranged in the gripple portion. 3b in such a manner that the groove exhibits a schwalbenschwanförmigen cross section, in that itself the width of the groove to the opening narrowed and/or.

corresponding Fig. 3c t-shaped ausgebildet is, in that itself the Nutbreite to the opening stufenweise narrowed. So that an insertion of the bristle owner 14 particularly simple and light can take place, the bristle owner 14 exhibits remote outlining edge a chamfering 34 there at that the bristles, where the bristle owner 14 is slid into the groove.

The Fig. a toothbrush with a bristle owner 14, is finalateral 36 provided at which a Spezialborste, this bristle set points 5 represents a special brush as interdental space brush, to the cleaning heavy accessible zones and to the preventive treatment of tartar and tartar. For this so far a complete Spezialzahnbürste of the user had to become purchased.

The embodiment in accordance with Fig. 6 zeigt elne toothbrush with a bristle owner 14, which elnen finalaterally gum stimulator 38 exhibits. The shown Stimulatorkegel 38 masked and strengthens the gums and dient simultaneous to the cleaning of the interdental spaces. This Zahnsleisch stimulator can be into a bore inserted planned in the Borstenhafter 14, to replace whereby the possibility exists to take the stimulator out of the bore and if necessary by a harder or welchelen depending upon need. Also here the already present gripple portion of the toothbrush for this Spezialaufsatz used can become, without a special toothbrush must become purchased.

With the embodiment in accordance with Fig. 5 and Fig. corresponding Fig can do 6 apart from the drawn attaching possibility. 1 also the attaching possibility in accordance with Fig. 2 to 4 used becomes.

Claims:

Claims:

Toothbrush with grasp and bristles, D A D u r C h g e k e n n z e I K h n e t that the bristles (12) with a bristle owner (14) are releasable connected with the grippe portion (10).

2. Toothbrush according to claim 1, D A D u r C h g e k e n n z e I C h n e t that the bristle owner (14) Toward the bristle longitudinal axis into an generally closed depression (16) of the grippe portion (10) in is settable.

3. Toothbrush according to claim 2, D A D u r C h g e k e n n z e I K h n e t that the Vertiefung (16) aufweisen to the attachment of the bristle owner (14) at the interior edge of opening inward rising up Haltellippen (18).

4. Toothbrush according to claim 3, D A D u r C h g e k e n n z e I C h n e t that the Haltellippen (18) Over the entire inner edge run.

5. Toothbrush after at least one of the claims 1 to 4, D A D u r C h g e k e n n z e I K h n e t that the bristle owner (14) aufweist bristle-laterally at the outlining edge a chamfer.

6. Toothbrush according to claim 2, D A D u r C h g e k e n n z e I C h n e t that to the attachment of the Bristle owner (14) in the bottom area (22) of the depression (16) in the grippe portion (10) holes (24) arranged are, into the Seite remote at that the bristles (12) of the Bristle owner (14) arranged knobs (28) engage.

7. Toothbrush according to claim 2, D A D u r C h g e k e n n z e I C h n e t that the bristle owner (14) is magnetic connected with the grippe portion (10).

8. Toothbrush according to claim 7, D A D u r C h g e k e n n z e I K h n e t that contained in the bristle owner (14) Magnetisierpulver and in the Vertiefungsgrund (22) a Metalleitblech (20) is arranged.

9. Toothbrush according to claim 8, D A D u r C h g e k e n n z e I C h n e t that the Magnetisierpulver and the metal panel (20) are into the respective art material bodies with injected.

10. Toothbrush after at least one of the claims 1 to 9, D A D u r C h g e k e n n z e I K h n e t that those exhibits the bristles (12) remote outlining edge bristles of the owner a chamfer (30).

11. Toothbrush according to claim 1, D A D u r C h g e k e n n z e I C h n e t that the bristle owner (14) from the front can be inserted into in grippe portion (10) a located in front open groove (16), wobei one in front to Grippe portion (10) located away-bendable Sicherungsnase (32) provided is.

12. Toothbrush according to claim 11, D A D u r C h g e k e n n z e I K h n e t that the groove (16) is in such a manner formed that the bristle owner (14) is conclusive form in this arranged.

13. Toothbrush according to claim 12, D A D u r C h g e k e n n z e I K h n e t that the groove (16) is schwanzförmig ausgebildet swallows.

14. Toothbrush according to claim 12, D A D u r C h g e k e n n z e I K h n e t that the groove is t-shaped from formed.

15. Toothbrush according to claim 11, D A D u r C h g e k e n n z e I K h n e t that that bristle-half (14) In module direction at that the bristles (12) remote Outlining edge a chamfering t34) aufweist.

16. Toothbrush after at least elnem of the claims 1 to 15, D A D u r C h g e k e n n z e I C h n e t that in Bristle owner (14) a single group of bristles (of 36) provided is finallylateral.

17. Toothbrush after at least one of the claims 1 to 16, D A D u r C h g e k e n n z e I C h n e t that in Bristle owner (14) finallylateral a einzelne as tooth fleischstimulator t38) formed, preferably out Plastic existing bristle provided is.

Fig.1a

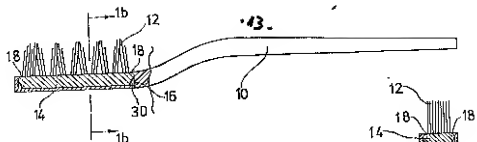


Fig.2a

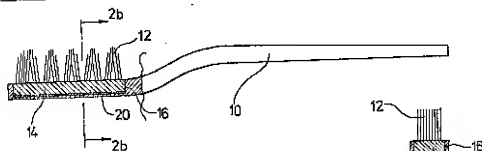


Fig.3a

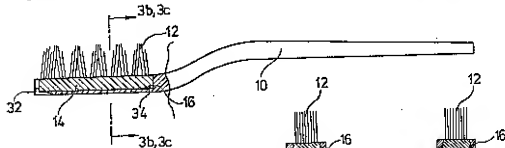
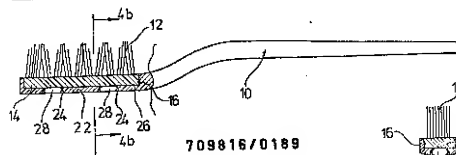


Fig.4a



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Fig.4b

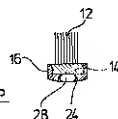


Fig. 5a

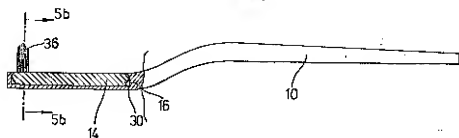


Fig. 5c

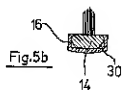
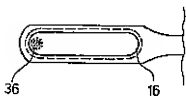


Fig. 5b

Fig. 6a

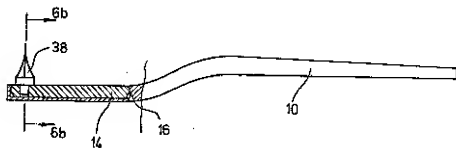


Fig. 6c

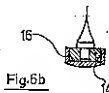
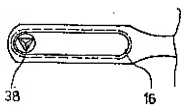


Fig. 6b